wherein said curing of said film occurs at a temperature greater than about 125°F and less than about 325°F.

REMARKS

Claims 1, 3, 4, 10, 13, 15, 21, 37 and 52 have been amended in response to the rejection under 35 U.S.C. § 112, first and second paragraphs. Claim 2 has been cancelled. Claims 1, 3-22 and 37-61 remain pending in the application.

Support for the amendment of claim 1 can be found at page 5, lines 26-31 and claim 2. Support for the amendment of claim 13 is at page 3, line 1. Support for the amendments of claims 37 and 52 can be found at page 8, line 28 through page 9, line 3.

Claims 1-16 and 37-41, 52 and 53 have been rejected under 35 U.S.C. § 103 as being unpatentable over Ryan in view of Stewart, Aikens et al. and the Adhesives Handbook. The Examiner has stated that Ryan describes the use of polyvinyl butyral resin to secure a mirror assembly to a windshield, that Stewart teaches the use of adhesives such as acrylates and epoxies, and that the Adhesives Handbook lists commonly used curing agents for epoxies. Further, the Examiner has stated that it would have been obvious to one having ordinary skill in the relevant art to employ thermosetting adhesives to meet desired conditions of temperature and the like as suggested by Stewart to join a mirror mounting bracket to a windshield as shown in Ryan.

The invention is concerned with mirror mounting systems prepared by laminating glass windshield panels together using a polymeric interlayer disposed between the windshield panels while simultaneously adhering a mirror mounting button to one of the panels using a thermosetting, one-package structural adhesive which is cured by the same autoclave process used for laminating the windshield panels together.

The invention is also concerned with a mirror mounting button, windshield arrangement wherein the mirror mounting button is adhered to the windshield by a thermosetting, one-package, structural adhesive which is capable of substantial cure at temperatures below about 325°F and which requires exposure to temperatures in excess of about 125°F before substantial curing is achieved. None of the references of record provide any teaching or suggestion for a laminated windshield which is prepared using an autoclave process wherein glass panels are laminated using a polymeric interlayer, while a mirror mounting button is simultaneously adhered to one of the glass layers using a thermosetting,

of the references of record teach or suggest a mirror mounting button, windshield arrangement wherein a one-package, thermosetting structural adhesive is used for adhering a mirror mounting button to a windshield.

The primary reference, Ryan, discloses (at column 2, lines 49-54) that the adhesive layer is polyvinyl butyral resin or other suitable resinous material. Polyvinyl butyral is a flexible thermoplastic material (See Kirk-Othmer, Concise Encyclopedia of Chemical Technology, page 1225, copy enclosed). The primary reference is thus limited to the teaching of bonding a mounting bracket to a windshield using a flexible thermoplastic adhesive, not a thermosetting, one-package structural adhesive. Ryan, therefore, does not teach or suggest a thermosetting material, but to the contrary, tends to teach against the same by limiting the adhesive to flexible thermoplastic materials such as polyvinyl butyral and other suitable resinous materials.

Stewart (at column 6, lines 40-58) states that the preferred adhesive for adhesively attaching a mirror to an automobile windshield is a silicone rubber material. Stewart states that other suitable materials include polyvinyl chloride, polyvinyl acetate, acrylates, epoxy resins, and the like. Silicone rubber is an elastomeric material. Stewart clearly states a preference for an elastomer, but also indicates that various flexible thermoplastic materials including polyvinyl chloride, polyvinyl acetate, and acrylate ester polymers are also suitable. The inclusion of epoxy resins in a list of flexible thermoplastic materials which concludes with the words "and the like", suggests that the inclusion of epoxy resins (a non-elastomeric, thermosetting material) was possibly unintended and inadvertent.

Contrary to the teachings of Stewart, applicant discloses at page 14, lines 6-15 that the claimed thermosetting structural adhesives exhibit superior vibration performance when compared to elastomeric materials such as the silicone elastomers preferred by Stewart. Further, it is unlikely that one having ordinary skill in the art would utilize a thermosetting structural adhesive having a modulus of elasticity of at least 10,000 psi in view of Stewart's pronounced preference for silicone rubber elastomers which typically have a modulus of elasticity below 500 psi at 85°C.

In view of the foregoing, it is respectfully submitted that one having ordinary skill in the art would perceive a pronounced preference for elastomeric, or at least flexible thermoplastic adhesives, and an aversion to the thermosetting adhesives as set forth in the

Ryan and Stewart each specifically teach or suggest the use of flexible thermoplastics for adhering a mirror mounting bracket or mirror to a windshield. Consistent with Ryan and Stewart, Aikens et al. also teaches the use of a flexible thermoplastic (polyvinyl butyral) for securing a mirror mounting bracket to a windshield, not a thermosetting material. In view of the apparent overwhelming preference for flexible thermoplastic adhesives or elastomeric adhesives, it is highly unlikely that one having ordinary skill in the art would be motivated to use a "thermosetting, structural adhesive" as set forth in the claims.

The Adhesives Handbook merely discloses commonly used curing agents for epoxies, and does not provide any teaching or suggestion relevant to the use of a thermosetting, one-package structural adhesive to bond a mirror mounting button to a windshield, as set forth in the claims. For example, the Adhesives Handbook does not disclose mirror mounting systems prepared by laminating glass windshield panels together using a polymeric interlayer disposed between the windshield panels while simultaneously adhering a mirror mounting button to one of the panels using a thermosetting, one-package structural adhesive which is cured by the same autoclave process used for laminating the windshield panels together.

For the reasons set forth above, it is respectfully submitted that one having ordinary skill in the art would not expect thermosetting, one-package structural adhesives as set forth in the claims especially high modulus epoxy resins, to be suitable for adhering a mirror mounting button to a glass panel, because this would be inconsistent with the general teachings of the references.

In view of the foregoing, the rejection based on the teachings of Ryan, Stewart, Aikens et al. and the Adhesives Handbook should be withdrawn.

Claims 17-22 have been rejected under 35 U.S.C. § 103 as being unpatentable over Ryan in view of Stewart, Aikens et al., the Adhesives Handbook, and Dressler.

These claims are allowable as dependent claims of allowable claim 12. Further, Dressler does not teach or suggest "a receptacle centrally located in said mirror mounting button" as set forth in claim 18, or the use of a modified epoxy adhesive as set forth in claims 20-22. Accordingly, this rejection should be withdrawn.

Claims 42-51 and 54-61 have been rejected under 35 U.S.C. § 103 as being

further in view of Structural Adhesives and Concise Guide To Structural Adhesives. These claims are allowable as claims which are either directly or indirectly dependent upon allowable base claims.

In view of the foregoing amendments and remarks, it is submitted that the application is now in condition for allowance and notice of the same is earnestly solicited.

Respectfully submitted,

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Enclosures